

WHAT IS CLAIMED IS:

1. A compound having a CdI_2 analogous layer structure and expressed by general formula of



where x is fallen within the range of $0 \leq x \leq 2$ and y is fallen within the range of $0 \leq y < 1$,

in which said A is at least one element selected from the group consisting of lithium, sodium, potassium, rubidium and cesium,

and in which said B is at least one element selected from the group consisting of titanium, vanadium, chromium, zirconium, niobium, molybdenum, hafnium, tantalum, tungsten, iridium and tin,

and in which said C is at least one element selected from the group consisting of sulfur, selenium and tellurium.

2. The compound as set forth in claim 1, in which said at least one element occupying at said A is totally replaced with at least one element selected from the group consisting of magnesium, calcium, strontium, barium, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc (Zn), zirconium, niobium, molybdenum, ruthenium, rhodium, palladium, silver, cadmium, hafnium, tantalum, tungsten, rhenium, iridium, platinum, gold, rare-earth elements containing scandium and yttrium, boron, aluminum, gallium, indium, thallium, tin, lead, antimony and bismuth.
3. The compound as set forth in claim 1, in which said at least one element occupying at said A is partially replaced with at least one element selected

from the group consisting of magnesium, calcium, strontium, barium, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc (Zn), zirconium, niobium, molybdenum, ruthenium, rhodium, palladium, silver, cadmium, hafnium, tantalum, tungsten, rhenium, iridium, platinum, gold, rare-earth elements containing scandium and yttrium, boron, aluminum, gallium, indium, thallium, tin, lead, antimony and bismuth.

4. The compound as set forth in claim 1, in which said B and said C are titanium and sulfur, respectively.

5. A compound having a CdI_2 analogous layer structure and expressed by general formula of



where x is fallen within the range of $0 \leq x \leq 2$ and y is fallen within the range of $0 \leq y < 1$,

in which said A is vacant,

and in which said B is at least one element selected from the group consisting of titanium, vanadium, chromium, zirconium, niobium, molybdenum, hafnium, tantalum, tungsten, iridium and tin,

and in which said C is at least one element selected from the group consisting of sulfur, selenium and tellurium.

6. The compound as set forth in claim 5, in which said B and said C are titanium and sulfur, respectively.

7. A compound having a CdI_2 analogous layer structure and expressed by general formula of



where x is fallen within the range of $0 \leq x \leq 2$ and y is fallen within the range of $0 \leq y < 1$,

in which said A is at least one element selected from the group consisting of lithium, sodium, potassium, rubidium, cesium, magnesium, calcium, strontium, barium, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc (Zn), zirconium, niobium, molybdenum, ruthenium, rhodium, palladium, silver, cadmium, hafnium, tantalum, tungsten, rhenium, iridium, platinum, gold, rare-earth elements containing scandium and yttrium, boron, aluminum, gallium, indium, thallium, tin, lead, antimony and bismuth,

and in which said B is at least one element selected from the group consisting of titanium, vanadium, chromium, zirconium, niobium, molybdenum, hafnium, tantalum, tungsten, iridium and tin,

and in which said C is at least one element selected from the group consisting of sulfur, selenium and tellurium.

8. The compound as set forth in claim 7, in which said B and said C are titanium and sulfur, respectively.
9. A thermoelectric generator comprising a first piece of thermoelectric material and a second piece of thermoelectric material different from said second thermoelectric material, said thermoelectric material having a CdI_2 analogous layer structure and expressed by general formula of



where x is fallen within the range of $0 \leq x \leq 2$ and y is fallen within the range of $0 \leq y < 1$,

in which said A is at least one element selected from the group consisting of lithium, sodium, potassium, rubidium and cesium,

and in which said B is at least one element selected from the group consisting of titanium, vanadium, chromium, zirconium, niobium, molybdenum, hafnium, tantalum, tungsten, iridium and tin,

and in which said C is at least one element selected from the group consisting of sulfur, selenium and tellurium.

10. The thermoelectric generator as set forth in claim 9, in which said at least one element occupying at said A is totally replaced with at least one element selected from the group consisting of magnesium, calcium, strontium, barium, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc (Zn), zirconium, niobium, molybdenum, ruthenium, rhodium, palladium, silver, cadmium, hafnium, tantalum, tungsten, rhenium, iridium, platinum, gold, rare-earth elements containing scandium and yttrium, boron, aluminum, gallium, indium, thallium, tin, lead, antimony and bismuth.

11. A thermoelectric refrigerator comprising a first piece of thermoelectric material and a second piece of thermoelectric material different from said second thermoelectric material, said thermoelectric material having a CdI_2 analogous layer structure and expressed by general formula of



where x is fallen within the range of $0 \leq x \leq 2$ and y is fallen within the range of $0 \leq y < 1$,

in which said A is at least one element selected from the group consisting of lithium, sodium, potassium, rubidium and cesium,

and in which said B is at least one element selected from the group consisting of titanium, vanadium, chromium, zirconium, niobium, molybdenum, hafnium, tantalum, tungsten, iridium and tin,

and in which said C is at least one element selected from the group consisting of sulfur, selenium and tellurium.

12. The thermoelectric refrigerator as set forth in claim 11, in which said at least one element occupying at said A is totally replaced with at least one element selected from the group consisting of magnesium, calcium, strontium, barium, titanium, vanadium, chromium, manganese, iron, cobalt, nickel, copper, zinc (Zn), zirconium, niobium, molybdenum, ruthenium, rhodium, palladium, silver, cadmium, hafnium, tantalum, tungsten, rhenium, iridium, platinum, gold, rare-earth elements containing scandium and yttrium, boron, aluminum, gallium, indium, thallium, tin, lead, antimony and bismuth.